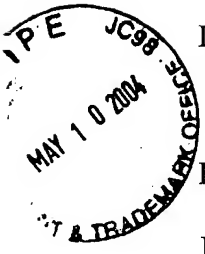Docket No.: 070602-0247 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of   : Customer Number: 31824

JACK ELIAS SEITNER   :

Serial No.: 10/080,560   : Group Art Unit: 2131

Filed: February 25, 2002   :

For: ANALOG SCRAMBLER

PETITION TO MAKE SPECIAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby petitions the Commissioner for Patents to make this application special under the special examining procedure for accelerated examination set forth in MPEP § 708.02, subsection VIII. The Commissioner is hereby authorized to charge the $130.00 fee set forth in 37 C.F.R. § 1.17(h) to Deposit Account No. 502203. Please charge any additional fees or credit any overpayment to Deposit Account No. 502203.

Applicant submits that all claims currently in the application are directed to a single invention. Should the Examiner determine otherwise and issue a restriction requirement, Applicant agrees to make an election without traverse in accordance with established telephone restriction practices upon notification of the requirement.

Applicant affirms that a pre-examination search has been conducted to identify prior art related to the subject matter of the present invention. The field of the search covered Class 380, subclasses 259, 260, 263 and 268. A copy of each of the references most closely related to the

subject matter encompassed by the claims is submitted herewith and is listed on the accompanying form PTO-1449. A detailed discussion of the references is provided below.

REMARKS

The invention described in the subject application concerns a method for scrambling or descrambling an analog signal. According to one aspect of the invention, an analog signal is received and converted into an intermediate frequency signal. This intermediate frequency signal is then combined with a generated Gaussian pseudo-random noise signal to scramble or descramble the received analog signal. Using the method of the present invention, analog signal transmissions can be performed securely. The foregoing features of the present invention are included in each of the independent claims of the subject application, namely Claims 1, 5 and 9.

U.S. Patent No. 3,610,828 (Girard) concerns a privacy communication system in which an analog signal is scrambled or descrambled by reversing the polarity of segments of the signal in accordance with a digital code word output by a code generator. Girard is not understood to disclose or suggest scrambling or descrambling the analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,071,692 (Weir) concerns a data transmission system in which a pulse code modulation bit stream containing data is mixed with a pseudo-random bit stream using binary addition. The bit streams are mixed to maintain a low DC level when the mixed bit stream is transmitted. Weir is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,208,739 (Lu) concerns an integrated encryption and channel coding technique in which a message sequence is transformed using an expansion function, encoded using a convolutional encoder, and then added to an artificially generated noise sequence. Lu is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,688,218 (Blineau) concerns a system for transmitting digital data packs. According to one embodiment of the system, digital data is binary scrambled by combining the digital data with a sequence output by a pseudo-random sequence generator using an exclusive-OR gate. Blineau is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,723,246 (Weldon) concerns an integrated scrambler-encoder using a pseudo-random sequence generator. For block code digital transmissions, Weldon describes the use of a pseudo-random sequence generator both to provide a block counter and to scramble a data stream by combining its output with the data stream. Weldon is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,752,953 (Paik) concerns a digital audio scrambling system. According to Paik, a compressed digital signal sample is scrambled using an exclusive-OR logic element and a unique keystream provided in accordance with the Data Encryption Standard algorithm.

Paik is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,771,463 (Beeman) concerns a system for digital scrambling without introducing error multiplication. According to Beeman, a data stream is scrambled using exclusive-OR logic together with a continuously running uninterrupted pseudo-random sequence. Beeman is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,790,013 (Kage) concerns a receiver capable of quickly establishing stable frame synchronization. According to Kage, a digital audio signal is scrambled by adding a pseudo noise pulse generated by a pseudo noise pattern generator to the signal. Kage is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 4,972,480 (Rosen) concerns a holographic communications device. According to Rosen, digital data signals are phase modulated using a pseudo-random code signal produced by a pseudo noise generator. The resulting modulated signal is then converted into a real time dependent component and an imaginary time dependent component. Rosen is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,144,669 (Faulkner) concerns a method for communicating digital signals. According to Faulkner, a data signal is scrambled/descrambled using exclusive-OR logic and a sequence output by a pseudo-random sequence generator. Faulkner is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,278,907 (Snyder) concerns analog scrambling with continuous synchronization. According to Snyder, a sub-band carrying continuously present synchronization information is transmitted with a scrambled signal. Preferably, the signal in Snyder is scrambled using time-varying pseudo-random spectral modifications. Snyder is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,283,831 (Cook) concerns a method of synchronizing the pseudo-random binary sequence in a descrambler. According to Cook, a data bit stream is scrambled using exclusive-OR logic together with a repeating pseudo-random binary sequence. Cook is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,530,756 (Bourel) concerns television scrambling and descrambling. According to Bourel, video signals are scrambled using "circular shift" based on a value generated by a first pseudo-random generator and sound data bits are scrambled by addition of

bits generated by a second pseudo-random generator. Both of the pseudo-random generators are initialized by a control word generated by a purely random generator. Bourel is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,555,305 (Robinson) concerns the secure transmission of video signals. According to Robinson, a video signal is scrambled by shuffling the order of lines within respective blocks of lines. A pseudo-random binary sequence generator provides a control word to a permutation generator to shuffle the lines. Robinson is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,561,714 (Hershberger) concerns a scrambling system for serial digital video. According to Hershberger, a self synchronizing scrambling/descrambling system for serial digital video is utilized in which the data passes through a linear feedback shift register to scramble/descramble the data. The system further dithers the LSB of selected video data words using exclusive-OR logic and the output from a pseudo-random noise generator. Hershberger is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,745,522 (Heegard) concerns a randomizer for byte-wise scrambling of data. According to Heegard, data is scrambled using exclusive-OR logic and a pseudo-random noise sequence generated by a linear feedback shift register. Heegard is not understood to

disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,894,517 (Hutchison) concerns a high-speed backplane bus having low RF radiation. According to Hutchison, electromagnetic emission is reduced while maintaining a high data transmission rate by scrambling a serial bit stream by combining the bit stream with a pseudo-random code sequence. Hutchison is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. 5,912,973 (Hiramatsu) concerns a method for scrambling and/or descrambling FM subcarrier Data. According to Hiramatsu, FM subcarrier data packets are scrambled/descrambled using exclusive-OR logic and modified pseudo-noise signal bits. Hiramatsu is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Patent No. Re. 31,735 (Davidson) concerns a subscriber-limited reception television broadcast security encoder-decoder system. According to Davidson, video signals are scrambled by inverting the video signals of certain horizontal scan lines on a pseudo-random basis and audio signals are scrambled by converting analog audio signals to coded digital audio signals. Davidson is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Publication No. 2001/0036274 (Antoine) concerns a method to generate pseudo-random sequence of multi-carrier data symbols. According to Antoine, a pseudo-random sequence of multi-carrier symbols is generated using a pseudo-random bit sequence produced by repetitively generating a pseudo-random sequence of a particular number of bits. Antoine is not understood to disclose or suggest scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

U.S. Publication No. 2003/0118186 (Gilley) concerns a cipher check of an analog scrambler. According to Gilley, a digital cipher is utilized as a pseudo-random number generator to generate a pseudo-random number stream to drive the scrambling of an analog waveform. Gilley is not understood to disclose or suggest scrambling or descrambling the analog waveform by converting the analog waveform into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

As discussed above, none of the references identified in the pre-examination search are understood to disclose or suggest at least the claimed features of scrambling or descrambling an analog signal by converting the analog signal into an intermediate frequency signal and combining it with a generated Gaussian pseudo-random noise signal.

Applicant respectfully requests that the references discussed above be expressly considered by the Examiner during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom. Applicant respectfully requests that the Examiner indicate such action by returning an initialed copy of the enclosed form PTO-1449.
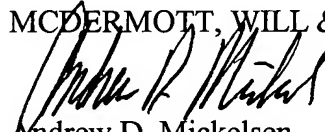
CONCLUSION

In view of the foregoing, Applicant respectfully submits that the requirements of MPEP §
708.02, subsection VIII, have been met. Accordingly, Applicant respectfully requests that the
subject application be granted special status and be taken up for accelerated examination on the
merits.

Applicant's undersigned attorney may be reached in our Orange County office by
telephone at (949) 851-0633. All correspondence should continue to be directed to our address
given below.

Respectfully submitted,

MCDERMOTT, WILL & EMERY

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